

WHAT IS CLAIMED IS:

1 1. A fabricating method for an array substrate of a liquid crystal display device, the
2 method comprising:
3 forming a gate line including a gate electrode on a substrate;
4 forming a gate-insulating layer on the substrate, the gate-insulating layer covering the
5 gate line and gate electrode;
6 forming an active layer on the gate-insulating layer;
7 forming a data line, a source electrode and a drain electrode on the active layer;
8 forming a passivation layer on the gate-insulating layer, the passivation layer covering
9 the data line, source electrode and drain electrode;
10 dry-etching a surface of the passivation layer with a gas such that the surface is
11 embossed; and
12 forming a reflective electrode on the embossed surface of the passivation layer such
13 that an exterior surface of the reflective electrode is embossed.

1 2. The method of claim 1, wherein the gas used for the dry-etching is a mixture gas of
2 $\text{SF}_6 + \text{O}_2$.

1 3. The method of claim 1, wherein the gas used for the dry-etching is a mixture gas of
2 $\text{CF}_4 + \text{O}_2$.

1 4. The method of claim 1, wherein the gas used for the dry-etching is O_2 gas.

1 5. The method of claim 1, wherein the passivation layer includes an organic insulating
2 material.

1 6. The method of claim 5, wherein the organic insulating material is benzocyclobutene
2 (BCB).

1 7. The method of claim 1, wherein the reflective electrode is an opaque conductive
2 metal.

1 8. The method of claim 7, wherein the opaque conductive metal is an aluminum based
2 metal.

1 9. The method of claim 1, further including forming a contact hole in the passivation
2 layer prior to forming a reflective electrode on the embossed surface of the passivation layer
3 such that an exterior surface of the reflective electrode is embossed.

1 10. The method of claim 1, further including forming a contact hole in the passivation
2 layer prior to dry-etching the surface of the passivation layer.

1 11. A liquid crystal display device comprising:
2 upper and lower substrates with a liquid crystal layer interposed therebetween;
3 a gate line and a gate electrode on the lower substrate;
4 a gate-insulating layer on the lower substrate, the gate-insulating layer covering the

Sub
A2

5 gate line and gate electrode;
6
7 an active layer on the gate-insulating layer;
8 a source electrode and a drain electrode on the active layer;
9 a data line on the gate-insulating layer;
10 a passivation layer on the data line, source electrode, and drain electrode; and
an embossed reflective electrode on the passivation layer.

12. The device of claim 11, wherein the passivation layer includes an organic insulating material.

13. The device of claim 11, wherein the organic insulating material is benzocyclobutene (BCB).

14. The device of claim 11, wherein the reflective electrode is an opaque conductive metal.

15. The device of claim 14, wherein the opaque conductive metal is an aluminum based metal.

16. A method of fabricating an array substrate for a liquid crystal display device, the method comprising:

forming a gate line including a gate electrode on a substrate;

forming a first insulating layer on the substrate, the first insulating layer covering the

5 gate line and gate electrode;
6 forming an active layer on the first insulating layer;
7 forming a data line, a source electrode and a drain electrode on the active layer;
8 forming a second insulating layer on the data line, source electrode and drain
9 electrode;
10 forming a first contact hole in the second insulating layer, exposing a first portion of
11 the drain electrode;
12 forming a transparent electrode contacting the drain electrode via the first contact
13 hole;
14 forming a passivation layer on the first insulating layer and transparent electrode;
15 forming a second contact hole in the passivation layer and the second insulating layer,
16 exposing a second portion of the drain electrode;
17 dry-etching a surface of the passivation layer with a gas such that the surface is
18 embossed; and
19 forming a reflective electrode on the embossed surface of the passivation layer such
20 that an exterior surface of the reflective electrode is embossed.

1 17. The method of claim 16, wherein the gas used for the dry-etching is a mixture gas of
2 $\text{SF}_6 + \text{O}_2$.

1 18. The method of claim 16, wherein the gas used for the dry-etching is a mixture gas of
2 $\text{CF}_4 + \text{O}_2$.

- 1 19. The method of claim 16, wherein the gas used for the dry-etching is O₂ gas.
- 1 20. The method of claim 16, wherein the passivation layer includes an organic insulating
2 material.
- 1 21. The method of claim 20, wherein the organic insulating material is benzocyclobutene
2 (BCB).
22. The method of claim 16, wherein the reflective electrode is an opaque conductive
metal.
23. The method of claim 22, wherein the opaque conductive metal is an aluminum based
metal.
- 1 24. A liquid crystal display device comprising:
2 upper and lower substrates with a liquid crystal layer interposed therebetween;
3 a gate line and a gate electrode on the lower substrate;
4 a first insulating layer on the lower substrate, the first insulating layer covering the
5 gate line and gate electrode;
6 an active layer on the gate-insulating layer;
7 a source electrode and a drain electrode on the active layer;
8 a data line on the gate-insulating layer;
9 a second insulating layer on the data line, source electrode and drain electrode;

10 a transparent electrode on the second insulating layer;
11 a passivation layer on the second insulating layer and the transparent electrode; and
12 an embossed reflective electrode on the passivation layer.

1 25. The device of claim 24, wherein the passivation layer includes an organic insulating
2 material.

3 26. The device of claim 24, wherein the organic insulating material is benzocyclobutene
4 (BCB).

5 27. The device of claim 24, wherein the reflective electrode is an opaque conductive
6 metal.

7 28. The device of claim 27, wherein the opaque conductive metal is an aluminum based
8 metal.